

STANFORD UNIVERSITY
STANFORD, CALIFORNIA

SCHOOL OF MEDICINE **Genetics**
Office of the Dean

February 24, 1959

Dr. M. C. Winternitz
The Jane Coffin Childs Memorial Fund
333 Cedar Street
New Haven 11, Connecticut

Dear Doctor Winternitz:

Please accept this letter as initiating an application for financial support of a broad program of research in cellular genetics. This application is made on behalf of the newly organized Department of Genetics in the School of Medicine at Stanford University. We are applying for a grant of \$300,000 in total, payable in five annual installments of \$60,000 beginning July 1, 1959 or other date (preferably sooner) convenient to you.

I would not presume to make such a substantial application if I did not feel that the history, character and orientation of our work were already familiar to you, and I will not attempt a too detailed review.

The Department of Genetics has been organized in connection with the current move of the Medical School from San Francisco to a newly built Medical Center on the University campus near Palo Alto. We therefore enjoy an unusually favorable context for our work with the support of our colleagues in the Department of Biology, and even more closely in the medical school departments of Biochemistry, Radiology, Microbiology, Pharmacology, and Pediatrics among others, the members and heads of which are keenly interested in and occupied with research closely related to cellular genetics.

The principal mission of the department is basic research in genetics, of course by no means excluding medical and graduate education, and cooperative work with other preclinical and clinical departments. In fact, cellular genetics as manifest in experimental studies with bacteria and with mammalian and human material, is its basic theme. My own laboratory, principally concerned with genetic information in bacteria, has just been successfully transplanted. Dr. Gustav Nossal, from

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Melbourne, Australia, is arriving this summer to resume our collaborative studies on antibody formation by single cells -- he will be a visiting research associate. Dr. Leonard Herzenberg (now completing a postdoctoral fellowship with Dr. Harry Eagle at the NIH) will accept a faculty appointment this fall to continue his biochemical genetic studies of mammalian cells grown in defined media. We have still to make two key appointments (one at full tenure): one in physiological genetics of man, the other to establish a laboratory for mammalian (mouse) genetics in which transplantation and experimental cancer should be principal subjects of study. We are not setting up a very large group. This unique cohesion of interests in a research department and its setting in the medical sciences at Stanford were decisive factors for my leaving a very happy situation at Wisconsin.

✓ I trust it will not be necessary to belabor the relevance of this theme of cellular genetics to the experimental analysis of cancer. In any case, while I personally plan to concentrate on microorganisms as the technically most favorable material for experimental genetics, I look forward to the scope that the new department will give for the design and realization of equally incisive experimentation on somatic and, particularly, cancer cells. The projections of genetic analysis to the problems of differentiation and cancer has been an impelling aim in my own career for some time.

I have to admit that I am still dedicated to the hypothesis of somatic mutation as a crucial factor in carcinogenesis, although it will plainly be necessary to enlarge the concept of somatic mutation to embrace such phenomena as lysogenic induction. Studies on bacteria have also shown how it may be possible to assimilate virus infection (and virus mediated transduction) into a genetic model of the cell. These views are perhaps adequately stated in the accompanying reprints. The main point I am trying to develop is that an explicit analysis of the genetic and cytophysiological basis of cancer may become possible only with the development of techniques for direct genetic analysis of cancer cells, be this by transduction, micrurgical transplantation of cellular organelles, or other techniques of genetic recombination. With the help of rapid current advances in methodology, the problem may now be at a stage comparable to that of phase variation in Salmonella 20 years ago.

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We are requesting these funds to help secure the financial basis of this department and its research in genetics not for the support of specific projects of the kind now readily available from federal agencies. We will of course be happy to go into as much more detail as you would be interested to have.

Dean Alway in forwarding this letter with administrative approval will also be happy to go into the general background of the exciting developments at Stanford.

With best regards,

Yours sincerely,

Joshua Lederberg
Professor of Genetics
Executive, Department of
Genetics

JL:rc

Encl.

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